



HAOPIN MICROELECTRONICS CO.,LTD.

注：该产品为管装，每管80PCS，每一盒为4K

Description

Passivated high commutation triacs in a plastic envelope intended for use in circuits where high static and dynamic dV/dt and high dI/dt can occur. These devices will commutate the full rated ms current at the maximum rated junction temperature without the aid of a snubber.

<p>Symbol</p> 		<p>Simplified outline</p>  <p>TO-252</p>	
Pin	Description		
1	Main terminal 1 (T1)		
2	Main terminal 2 (T2)		
3	gate (G)		
TAB	Main terminal 2 (T2)		

Applications:

- ◆ Motor control
- ◆ Industrial and domestic lighting
- ◆ Heating
- ◆ Static switching

Features

- ◆ Blocking voltage to 600 V
- ◆ On-state RMS current to 8 A

SYMBOL	PARAMETER	Value	Unit
V_{DRM}	Repetitive peak off-state voltages	600	V
$I_{T(RMS)}$	RMS on-state current (full sine wave)	8	A
I_{TSM}	Non-repetitive peak on-state current (full cycle, T_j initial=25°C)	84	A

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$R_{th(j-c)}$	Junction to case(AC)		-	1.6	-	°C/W
$R_{th(j-a)}$	Junction to ambient		-	70	-	°C/W

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Limiting values in accordance with the Maximum system(IEC 134)

SYMBOL	PARAMETER	CONDITIONS	MIN	Value	UNIT		
V_{DRM}/V_{RRM}	Repetitive peak off-state Voltages		-	600	V		
$I_{T(RMS)}$	RMS on-state current	Full sine wave; $T_c=110^\circ\text{C}$	-	8	A		
I_{TSM}	Non repetitive surge peak on-state current	full cycle, T_j initial= 25°C	F=50Hz	t=20ms	-	80	A
			F=60Hz	t=16.7ms	-	84	A
I^2t	I^2t value for fusing	tp=10ms	-	36	A ² S		
dl/dt	Critical rate of rise of on-state current	$I_G=2x I_{GT}$, tr<=100ns	F=120Hz	$T_j=125^\circ\text{C}$	-	50	A/ μs
I_{GM}	Peak gate current		tp=20us	$T_j=125^\circ\text{C}$	-	4	A
I_{DRM} I_{RRM}	$V_{DRM}=V_{RRM}$			$T_j=25^\circ\text{C}$	-	5	μA
				$T_j=125^\circ\text{C}$	-	1	mA
$P_{G(AV)}$	Average gate power dissipation			$T_j=125^\circ\text{C}$	-	1	W
T_{stg}	Storage junction temperature range		-40	150		$^\circ\text{C}$	
T_j	Operating junction temperature range		-40	125		$^\circ\text{C}$	

$T_j=25^\circ\text{C}$ unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT	
Static characteristics							
$I_{GT}(1)$ V_{GT}		$V_D=12\text{V}; R_L=30\ \Omega$	I-II-III	-	-	10	mA
				I-II-III			1.3
I_L		$I_G=1.2 I_{GT}$	I-III	-	-	25	mA
			II	-	-	30	mA
$I_{H}(2)$		$I_T=100\text{mA}$		-	-	15	mA
V_{GD}		$V_D=V_{DRM}$ $R_L=3.3\text{K}\ \Omega$ $T_j=125^\circ\text{C}$	I-II-III	0.2	-	-	V
dV/dt(2)		$V_D=67\%V_{DRM}$ gate open; $T_j=125^\circ\text{C}$		40	-	-	V/ μs
(dl/dt)c(2)		(dv/dt)c=0.1V/ μS $T_j=125^\circ\text{C}$ (dv/dt)c=10V/ μS $T_j=125^\circ\text{C}$		5.4 2.8	-	-	V/ μs

Dynamic Characteristics

$V_{TM}(2)$	$I_{TM}=11\text{A}$ tp=380 μs	$T_j=25^\circ\text{C}$	-	-	1.55	V
$V_{to}(2)$ $R_g(2)$	Threshold voltage Dynamic resistance	$T_j=125^\circ\text{C}$ $T_j=125^\circ\text{C}$	-	-	0.85 50	V m Ω

Note1: minimum I_{GT} is guaranteed at 5% of I_{GT} max.

Note2: for both polarities of A2 referenced to A1.

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Description

Fig. 1: Maximum power dissipation versus RMS on-state current (full cycle).

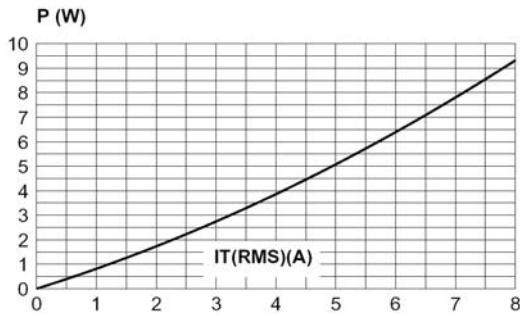


Fig. 2-1: RMS on-state current versus case temperature (full cycle).

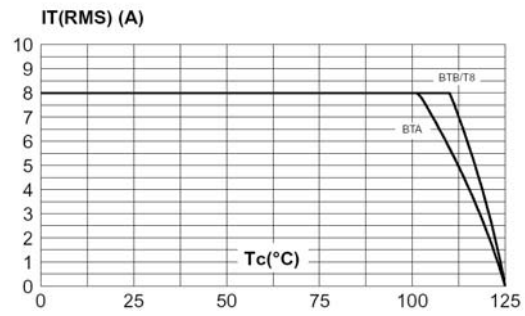


Fig. 2-2: RMS on-state current versus ambient temperature (printed circuit board FR4, copper thickness: 35µm), full cycle.

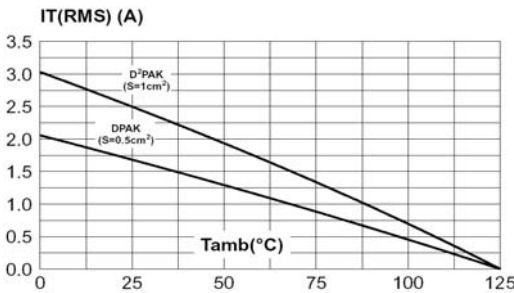


Fig. 3: Relative variation of thermal impedance versus pulse duration.

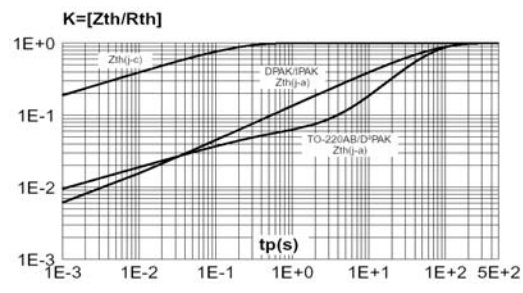


Fig. 4: On-state characteristics (maximum values).

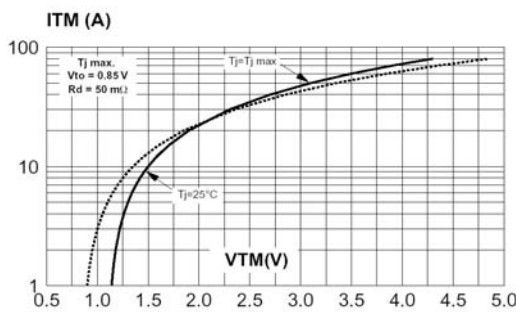
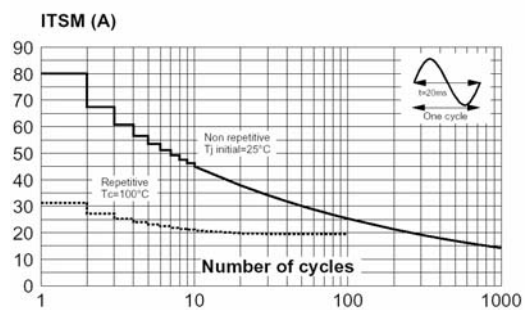


Fig. 5: Surge peak on-state current versus number of cycles.



Description

Fig. 6: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t .

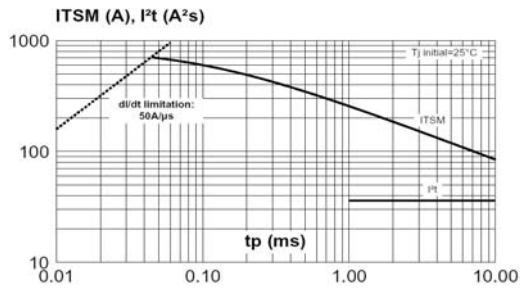


Fig. 7: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

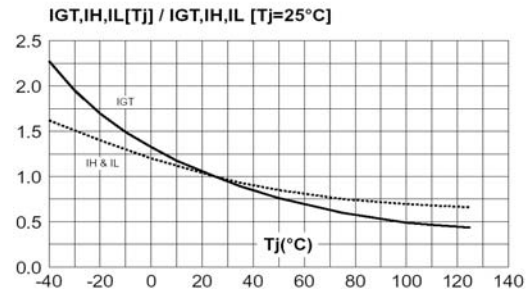


Fig. 8-1: Relative variation of critical rate of decrease of main current versus $(dV/dt)_c$ (typical values). Snubberless & Logic Level Types

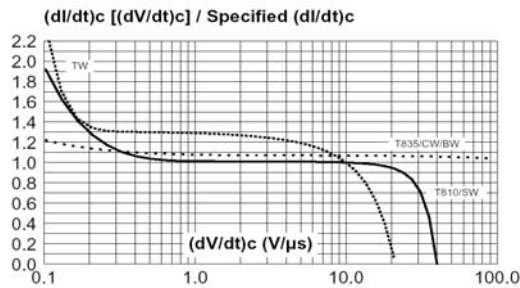


Fig. 8-2: Relative variation of critical rate of decrease of main current versus $(dV/dt)_c$ (typical values). Standard Types

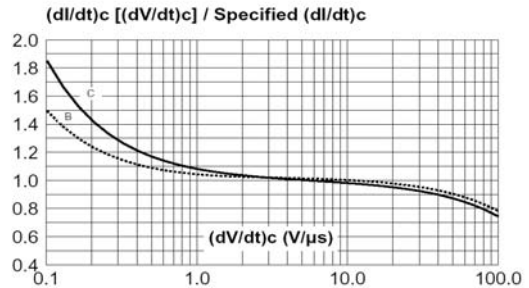


Fig. 9: Relative variation of critical rate of decrease of main current versus junction temperature.

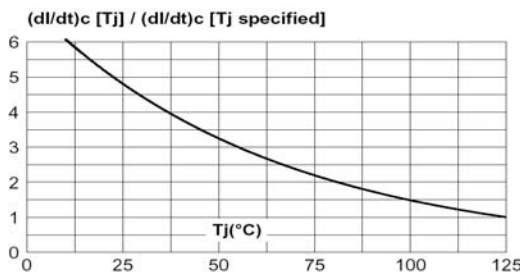
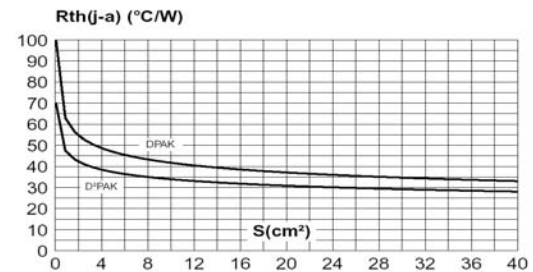


Fig. 10: DPAK and D²PAK Thermal resistance junction to ambient versus copper surface under tab (printed circuit board FR4, copper thickness: 35 µm).





T810-600B

Three quadrant triacs

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MECHANICAL DATA

Dimensions in mm
Net Mass: 2 g